

Capitulo 7 Job Order Costing

Exercise 4-1 (10 minutes)

The estimated total manufacturing overhead cost is computed as follows:

$$Y = \$466,000 + (\$3.00 \text{ per DLH})(40,000 \text{ DLHs})$$

Estimated fixed manufacturing overhead	\$466,000
Estimated variable manufacturing overhead:	
\$3.00 per DLH × 40,000 DLHs.....	<u>120,000</u>
Estimated total manufacturing overhead cost	<u>\$586,000</u>

The predetermined overhead rate is computed as follows:

Estimated total manufacturing overhead	\$586,000
÷ Estimated total direct labor hours (DLHs).....	40,000 DLHs
= Predetermined overhead rate	\$14.65 per DLH

Exercise 4-2 (10 minutes)

Actual direct labor-hours	12,600
× Predetermined overhead rate	\$23.10
= Manufacturing overhead applied	\$291,060

Exercise 4-3 (30 minutes)

The unit product costs for the products are a combination of direct materials, direct labor, and overhead costs. The overhead costs assigned to each product would be computed as follows:

	<u>J78</u>		<u>B52</u>	
	<i>Expected Activity</i>	<i>Amount</i>	<i>Expected Activity</i>	<i>Amount</i>
Labor related, at \$7.00 per direct labor-hour	1,000	\$ 7,000	40	\$ 280
Machine related, at \$3.00 per machine-hour	3,200	9,600	30	90

Machine setups, at \$40.00 per setup	5	200	1	40
Production orders, at \$160.00 per order	5	800	1	160
Shipments, at \$120.00 per shipment.....	10	1,200	1	120
General factory, at \$4.00 per direct labor-hour	1,000	<u>4,000</u>	40	<u>160</u>
Total overhead cost assigned (a) ..		\$22,800		\$ 850
Number of units produced (b)		<u>4,000</u>		<u>100</u>
Overhead cost per unit (a) ÷ (b) ...		<u>\$ 5.70</u>		<u>\$8.50</u>

The unit product costs combine direct materials, direct labor, and overhead costs as follows:

	<i>J78</i>	<i>B52</i>
Direct materials	\$ 6.50	\$31.00
Direct labor.....	3.75	6.00
Manufacturing overhead (see above)	<u>5.70</u>	<u>8.50</u>
Unit product cost	<u>\$15.95</u>	<u>\$45.50</u>

Exercise 4-5 (20 minutes)

1. To determine the cost of goods sold using the direct method, we must determine the unit product cost. We can then determine the unadjusted cost of goods sold as follows:

Job X32Z	
Beginning balance.....	\$ 5,000
Direct materials	8,000
Direct labor	2,000
Manufacturing overhead applied	<u>4,000</u>
Total (a).....	<u>\$19,000</u>
Units completed (b).....	100
Unit product cost (a) ÷ (b)	\$190
Units sold	40
Unadjusted cost of goods sold	\$7,600

The cost of goods sold must be adjusted for the overapplied overhead as follows:

Unadjusted cost of goods sold (see above).....	\$7,600
Deduct: Overapplied overhead	<u>300</u>
Cost of goods sold.....	<u>\$7,300</u>

2. The value of ending finished goods inventory can be determined using the unit product cost computed above:

Job X32Z	
Units completed	100
Deduct: Units sold.....	<u>40</u>
Units in ending inventory.....	60
Unit product cost.....	\$190

Total cost of ending finished goods inventory..... \$11,400

3. There is no ending work in process inventory, so its value is zero.

Exercise 4-6 (30 minutes)

To determine the cost of goods sold using the indirect method, we need:

- (1) the beginning work in process inventory;
- (2) the total manufacturing cost charged to jobs during the period;
- (3) the ending work in process inventory;
- (4) the beginning finished goods inventory; and
- (5) the ending finished goods inventory.

These values can be determined as follows:

(1) The beginning work in process inventory was \$5,000.

(2) The total manufacturing cost charged to jobs during the period can be determined as follows:

	Job X32Z
Direct materials	\$ 8,000
Direct labor	2,000
Manufacturing overhead applied	<u>4,000</u>
Total manufacturing cost charged to jobs	<u>\$14,000</u>

(3) There is no ending work in process inventory, so its value is zero.

(4) There was no beginning finished goods inventory.

(5) The value of the ending finished goods inventory can be determined as follows:

	Job X32Z
Beginning balance	\$ 5,000
Direct materials	8,000
Direct labor	2,000
Manufacturing overhead applied	<u>4,000</u>
Total (a)	<u>\$19,000</u>

Units completed (b).....	100
Unit product cost (a) ÷ (b)	\$190

	Job X32Z
Units completed	100
Deduct: Units sold.....	<u>40</u>
Units in ending inventory.....	60
Unit product cost.....	\$190
Total cost of ending finished goods inventory.....	\$11,400

Finally, the cost of goods sold would be computed as follows:

Manufacturing costs charged to jobs:

Direct materials	\$ 8,000
Direct labor.....	2,000
Manufacturing overhead applied.....	<u>4,000</u>
Total manufacturing cost charged to jobs.....	14,000
Add: Beginning work in process inventory	<u>5,000</u>
	19,000
Deduct: Ending work in process inventory.....	<u>0</u>
Cost of goods manufactured	<u>\$19,000</u>

Beginning finished goods inventory,	\$ 0
Add: Cost of goods manufactured (see above).....	<u>19,000</u>
Goods available for sale.....	19,000
Deduct: Ending finished goods inventory.....	<u>11,400</u>

Unadjusted cost of goods sold	7,600
Deduct: Overapplied overhead	<u>300</u>
Cost of goods sold.....	<u>\$ 7,300</u>

Exercise 4-12 (15 minutes)

1. Actual manufacturing overhead costs		\$ 48,000
Manufacturing overhead applied:		
10,000 MH × \$5 per MH.....		<u>50,000</u>
Overapplied overhead cost.....		<u>\$ 2,000</u>
2. Direct materials:		
Raw materials inventory, beginning.....	\$ 8,000	
Add: Purchases of raw materials	<u>32,000</u>	
Raw materials available for use.....	40,000	
Deduct: Raw materials inventory, ending	<u>7,000</u>	
Raw materials used in production		\$ 33,000
Direct labor		40,000
Manufacturing overhead cost applied to work in process		<u>50,000</u>
Total manufacturing cost		123,000
Add: Work in process, beginning		<u>6,000</u>
		129,000
Deduct: Work in process, ending.....		<u>7,500</u>
Cost of goods manufactured		<u>\$121,500</u>